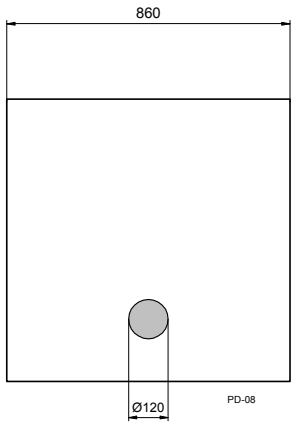
Photodiode-Chip EPC-525-0.9-1

Preliminary 26.04.2007 rev. 09/07

Wavelength range	Type	Technology	Electrodes
Green, selective	Integrated filter	GaP	P (anode) up



typ. dimensions (µm)

typ. thickness
270 (±20) µm

anode
gold alloy, 1.5 µm

cathode
gold alloy, 0.5 µm

Description

Narrow bandwidth and high spectral sensitivity in the range of max. eye responsivity (480..560 nm), low cost chip

Applications

Nearly Vλ matched detection, measurement systems, daylight sensors

Miscellaneous Parameters

T_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	0.73	mm²
Operating temperature range		T_{amb}	-40 to +125	°C
Storage temperature range		T_{stg}	-40 to +125	°C
Temperature coefficient of I_D	T = -40…120°C	$T_C(I_D)$	4.7	%/K
Temperature coefficient of I_{PH}	T = -40…120°C	$T_C(I_{Ph})$	0.25	%/K
Temperature coefficient of λ_c	T = -40…120°C	$T_C(\lambda_c)$	0.15	nm/K

Optical and Electrical Characteristics

T_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Dark current	V_R = 5 V	I_D		5	30	pA
Responsivity at 525 nm[1)]	V_R = 0 V	S_λ	0.04	0.08		A/W
Responsivity at 525 nm[2)]	V_R = 0 V	S_λ	0.15	0.3		A/W
Peak sensitivity wavelength	V_R = 0 V	λ_p		525		nm
Sensitivity range at 1% [1)]	V_R = 0 V	λ_{min}, λ_{max}	410		580	nm
Spectral bandwidth at 50%	V_R = 0 V	$\Delta\lambda_{0.5}$		70		nm
Dark resistance	V_R = 10 mV	R_D		350		GΩ
Noise equivalent power[1)]	λ = 525 nm	NEP		$1.6x10^{-14}$		$WHz^{1/2}$
Junction capacitance	V_R = 0 V	C_J		100		pF
Switching time (R_L = 50 Ω)	V_R = 1 V	t_r, t_f		35		ns

[1)]Measured on bare chip on TO-18 header

[2)]Measured on epoxy covered chip on TO-18 header

Labeling

Type	Typ. I_D [pA]	Typ. S_λ[A/W]	Lot N°	Quantity
EPC-525-0.9-1				

Packing: Chips on adhesive film with wire-bond side on top

*Note: All measurements carried out with *EPIGAP* equipment

EPIGAP Optoelektronik GmbH, D-12555 Berlin, Köpenicker Str.325 b, Haus 201
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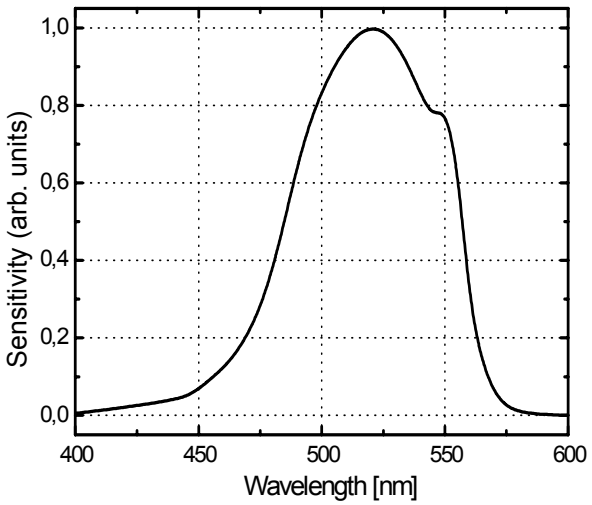
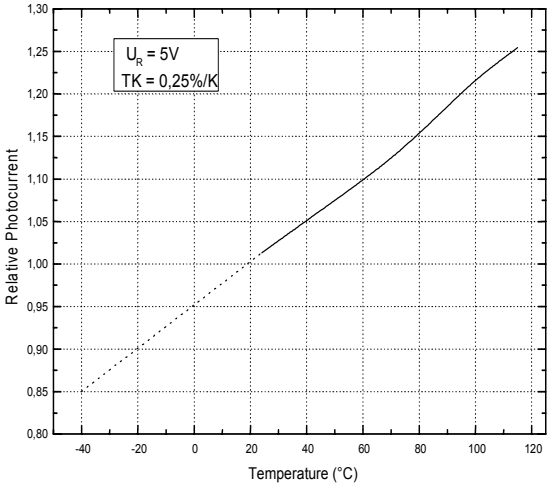
Responsivity spectrum



Relative Photocurrent vs. Temperature



Dark Current vs. Temperature